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EXAMINER	
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ART UNIT	PAPER NUMBER
2878	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)	
	10/690,237	KRANTZ ET AL.	
	Examiner	Art Unit	
	Don Williams	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 42-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Kare et al (US2004/0178329).

As to claim 42, Kare et al disclose an optical sensor (see paragraph 0040, lines 15) or a remote sensing apparatus (10) that is functionally equivalent to an optical sensor in that it effectively reduces a non-active gap comprising means (optical fibers) for obtaining optical information from a field of view and means (fiber optic faceplate) for orienting optical information to two linear sensor elements (18) of the optical sensor so as to enhance an optical congruence capability of the optical senor, (see figure 1a, paragraph [0044]).

As to claim 43, Kare et al disclose the optical sensor (10) having means (fiber optic faceplate) for positioning optical fibers for obtaining in relation to optical sensor, (see paragraph [0060]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kare et al in view of Kerr et al (US2004/0109653).

As to claim 1, Kare et al disclose an optical sensor (see paragraph 0040, lines 15) or a remote sensing apparatus (10) that is functionally equivalent to an optical sensor in that it effectively reduces a non-active gap (non-uniform spacing) that includes having a first linear array of sensors segments (18) and a second linear array of sensor segments (18) separated by a first non-active gap (non-uniform spacing) having a first width, a first optical fiber (16) having a first end oriented toward a field of view and a second end oriented toward a sensor segment (18) of the first linear array of sensor segments (18), and a second optical fiber (16) having a first end oriented toward a field of view and located at a non-uniform spacing or a spacing between the fibers (16) due to being aligned on a grooved alignment component wherein the spacing of the first end of the optical fibers (16) located in the focal plane are different than the spacing at the second end of the fibers (16) facing the detector array (18), (see Abstract, figure 1, paragraph [0044]. Kare et al fail to explicitly disclose that the second optical fiber having a first end is located a first distance that is less than the first width and that the second

distance from the second end of the optical fiber is greater than the first distance. Kerr et al disclose an input edge fiber to fiber spacing (I), an input edge fiber group distance (I_g), and an output edge fiber to fiber spacing (O) in order to have precise positioning of the optical fibers at the input and output sides corresponding to a fiber optic faceplate. It would have been obvious for one ordinary skill in the art to modify Kare et al to include an input edge fiber to fiber spacing (I), an input edge fiber group distance (I_g), and an output edge fiber to fiber spacing (O) that are functionally equivalent to a non-active gap as disclosed by Kerr et al to improve and enhance the precise positioning and optical congruence of the linear array of optical fibers at the input side of the fiber optic faceplate and the detector array located at the output side of the fiber optic faceplate, (see figure 12, paragraph [0006], paragraph [0035]).

As to claim 2, the modified Kare et al disclose the optical sensor (10) having a third linear array of sensor segments (18) separated from second linear array of sensor segments (18) by a second non-active gap having a second width. The modified Kare also disclose a third optical fiber (16) having a first end oriented toward the field of view and located a third distance less than the second width from the first end of the second optical fiber and a second end oriented (16) oriented toward a sensor segment (18) of the third linear array of sensor segment (18), (see Abstract, figure 1, paragraph [0044]).

As to claim 3, the modified Kare et al disclose the optical sensor (10) having discreet filters (46) or colored dyes that are functionally equivalent to first, second, and third color filters in that the discreet colored filters (46) or colored dyes can be located proximate the detector or at either end of the optical fiber wherein the discreet filters or

colored dyes filter out the undesired spectral bands prior to the spectral energy reaching the appropriate detector, (see figure 8a, paragraph [0066], paragraph [0067]).

As to claim 4, the modified Kare et al disclose the optical sensor (10) having an optical faceplate configured to accommodate or support first and second or optical fibers, (see paragraph [0060]).

As to claim 5, the modified Kare et al disclose (see figure 3) an arrangement that is functionally equivalent to a column in that each, the first and second optical fibers are arranged in a single column.

As to claim 6, the modified Kare et al disclose that the optical sensor (10) having optical fibers (16) that are mounted on a grooved alignment component that is functionally equivalent to a block structure in that it provides a precise position for the optical fibers, (see paragraph [0044]).

As to claim 7, the modified Kare et al disclose the optical sensor (10) having a field of view along a focal plane assembly (14) that intersects the first end of first optical fiber and first end of second optical fiber, (see figure 1, paragraph [0044]).

As to claim 8, the modified Kare et al disclose the optical sensor (10) is a pushbroom type sensor, a line scan sensor, or any type of sensor known to those skilled in the art. The modified Kare et al fail to explicitly disclose a linear sensor. It would have been obvious for one ordinary skill in the art to further modify Kare et al to include a pushbroom type sensor, a line scan sensor, or any type of sensor known to those skilled in the art that comprise of optical elements such as a light source and a

detector to improve the intensity of the spectral energy transmitted by the optical fibers (see paragraph [0042]).

As to claim 9, the modified Kare et al disclose the optical sensor (10) having three sensor elements (18) that are functionally equivalent to a tri-linear sensor in that it comprise of three fibers (16) or fiber bundles that are connected to the detector array (18). The modified Kare et al fail to explicitly disclose a tri-linear sensor. It would have been obvious for one ordinary skill in the art to further modify Kare et al to substitute the detector array (18) for the tri-linear sensor in order to measure the intensity of the spectral energy emitted by the optical fibers.

As to claim 10, the modified Kare et al is silent as to disclosing that the optical sensor is one matrix sensor. However, the modified Kare et al disclose an arrangement (see figure 3) similar to a matrix sensor in that the optical fibers are arranged in a single column. It would have been obvious for one ordinary skill in the art to arrange the optical fibers in one matrix or any desired manner in order to maintain a precise and accurate alignment of the optical fibers on the fiber optic plate, (see paragraph [0051]).

As to claims 11, 12, the modified Kare et al disclose the optical sensor (10) having (see figure 3) a linear arrangement of the optical fibers that is functionally equivalent to a matrix in that the optical fibers are aligned vertically and horizontal to each other. The modified Kare et al fail to explicitly disclose a matrix sensor. It would have been obvious for one ordinary skill in the art to further modify Kare et al to include a linear arrangement of the optical fibers to improve and enhance the congruence of the optical fibers and to form a matrix sensor.

As to claim 13, the modified Kare et al disclose the optical sensor (10) having a second end of first optical fiber mounted to the first linear array or detector array of sensor segment (18) and the second end of the second optical fiber mounted to the second detector array (18), (see Abstract, figure 1, paragraph [0044]).

As to claim 14, the modified Kare et al disclose the optical sensor (10) having a lens (12) located between the field of view and the first ends of the first optical fibers and second optical fibers, (see figure 1, paragraph [0044]).

As to claims 15, 36, Kare et al disclose an optical sensor (see paragraph 0040, lines 15) or a remote sensing apparatus (10) that is functionally equivalent to an optical sensor in that it effectively reduces a non-active gap (non-uniform spacing) by reducing the time delay between the sensor elements in receiving image information. Kare et al also disclose the optical sensor having a first linear array of detectors (18), a second linear array of detectors (18), a third linear array of detectors (18), a first optical fiber (16) having a first end oriented toward a field of view and a second end oriented toward a first linear array of sensor segments (18), a second optical fiber (16) having a first end oriented toward a field of view and located at a non-uniform spacing or a spacing between the fibers (16) due to being aligned on a grooved alignment component wherein the spacing of the first end of the optical fibers (16) located in the focal plane are different than the spacing at the second end of the optical fibers (16) facing the second linear array of sensor segments (18), a third optical fiber (see figure 1A) having a first end oriented toward a field of view, and a second end oriented toward the third linear array of sensor segments (18). Kare et al fail to explicitly disclose a tri-linear

optical sensor, a second optical fiber having a first end located a first distance less than the first width, and a third optical fiber having a first end located a third distance less than the second width. Kerr et al disclose (see figure 6d) an input edge fiber to fiber spacing (I) that correspond to a first distance and a third distance and an output edge fiber to fiber spacing (O) that corresponds to a first width and a second width. It would have been obvious for one ordinary skill in the art to further modify Kare et al to substitute the first, second, and third detector arrays (18) for the tri-linear sensor in order to improve the system by measuring the intensity of the spectral energy emitted by the optical fibers. It would have been obvious for one ordinary skill in the art to further modify Kare et al to include (see figure 6d) an input edge fiber to fiber spacing (I) that corresponds to a first distance and a third distance in that it is less than the output edge fiber to fiber spacing (O) that corresponds to a first width and a second width as disclosed by Kerr et al to effectively reduce the time delay between the sensor elements in order to enhance the optical congruence of the first linear array in relation to the second linear array.

As to claim16, the modified Kare et al disclose a plurality of first, second, and third optical fibers all in the form of sub-bundles of fibers, (see paragraph [0054]).

As to claim 17, the modified Kare et al disclose (see figure 3) an arrangement that is functionally equivalent to a column in that each, the first and second optical fibers are arranged in a single column.

As to claims 18, 41, the modified Kare et al disclose the optical sensor (10) having a second end of first optical fiber (16) mounted to first linear array of sensors

(18), a second end of second optical fiber (16) mounted to second linear array of sensors (18), and a second end of third optical fiber (16) mounted to third linear array of sensors (18), (see figure 1, paragraph [0044]).

As to claim 19, Kare et al disclose an optical sensor (see paragraph 0040, lines 15) or a remote sensing apparatus (10) that is functionally equivalent to an optical sensor in that it effectively reduces a non-active gap (non-uniform spacing) using faceplates or any type of support structure configured to align the optical fibers located in the field of view and having a faceplate located at the detector end configured to aligned the optical fibers on to the fiber optic plate while securely maintaining the desired alignment. The modified Kare et al fail to explicitly disclose that a first optical fiber of a plurality of optical fibers having a first end mounted to the first fiber optic faceplate, a second end mounted to a second fiber optic faceplate, a second optical fiber of a plurality of optical fibers having a first distance corresponding to a first end less than a non-active gap wherein the first end is mounted to first a fiber optic faceplate, a second optical fiber having a second end mounted to second fiber optic faceplate having a second distance greater than a first distance from first optical fiber wherein the second end of first optical fiber and the second end of second optical fiber are spaced to align with a first linear array and a second linear array of optical sensors. Kerr et al disclose (see figure 5) that ribbon structure (40) along with input edge spacer (42) is used to form a first faceplate configured to mount the first end of the optical fibers and that output edge (48) along with output edge spacer (44) are configured to form a second faceplate used to mount the second ends of the first and second optical fibers

corresponding to an array of detectors elements. It would have been obvious for one ordinary skill in the art to further modify Kare et al to include (see figure 6d) an input edge fiber to fiber spacing (I) that corresponds to a first distance in that it is less than the output edge fiber to fiber spacing (O) that corresponds to a second distance greater than the first distance as disclosed by Kerr et al to effectively reduce the time delay between the sensor elements in order to enhance the optical congruence of the first linear array in relation to the second linear array of the detectors.

As to claim 20, the modified Kare et al disclose a plurality of first, second, and third optical fibers all in the form of sub-bundles of fibers, (see paragraph [0054]).

As to claim 21, the modified Kare et al disclose the optical sensor (10) having a third optical fiber (16) of a plurality of optical fibers having a first end mounted to first fiber optic face plate a distance (I) from the first end of second optical fibers (16) less than a non-active gap (O) and a second end mounted to second fiber optic faceplate wherein the second end of third optical fiber (16) is located to align a third linear array of optical sensor (18), (see figure 1, paragraph [0044]).

As to claim 22, the modified Kare et al disclose (see figure 3) an arrangement that is functionally equivalent to a column in that each, the first and second optical fibers are arranged in a single column.

As to claim 23, the modified Kare et al disclose the optical sensor (10) having the first ends of the first optical fiber and the second optical fiber are mounted normal to a focal plane assembly. The modified Kare et al fail to explicitly disclose the first fiber optic faceplate and the second ends of the first optical fiber and the second optical fiber

being mounted to the second fiber optic faceplate normal to a plane. Kerr et al disclose (see figure 5) that ribbon structure (40) along with input edge spacer (42) is used to form a first faceplate configured to mount the first ends of the first and second optical fibers and that output edge (48) along with output edge spacer (44) are configured to form a second faceplate used to mount the second ends of the first and second optical fibers corresponding to an array of detectors elements. It would have been obvious for one ordinary skill in the art to further modify Kare et al to include a first faceplate configured to mount the first ends of the first and second optical fibers normal to a plane and that output edge (48) along with output edge spacer (44) are configured to form a second faceplate used to mount the second ends of the first and second optical fibers corresponding to an array of detectors elements normal to a plane.

As to claim 24, the modified Kare et al disclose the optical sensor (10) having a faceplate or any type support structure that aligns the optical fibers with the appropriate detectors while also securely maintaining the desired alignment, (see paragraph [0060]).

As to claim 25, the modified Kare et al disclose the optical sensor (10) having various type detectors that are functionally equivalent to a tri-linear CCD image sensor in that the sensors have the capability to capture a portion of the light information of an object or a scene of interest wherein the optical fibers are oriented to obtain visual images from a field of view at one location and distribute components of the optical images to more widely spaced sensor elements of one or more optical sensors. Examples of sensors that are compatible to a tri-linear sensor as taught by the modified

Kare et al are Charge Couple Device (CCD) sensors or photodiode array detectors such as linear CCD arrays or hybrid silicon photodiode arrays. The modified Kare also teach that other detectors may be utilized as known to those skilled in the art to be capable of detecting spectral energy, (see paragraph [0053]).

As to claim 26, the modified Kare et al is silent as to disclosing that the optical sensor is one matrix sensor. However, the modified Kare et al disclose an arrangement (see figure 3) similar to a matrix sensor in that the optical fibers are arranged in a single column. It would have been obvious for one ordinary skill in the art to arrange the optical fibers in one matrix or any desired manner in order to maintain a precise and accurate alignment of the optical fibers on the fiber optic plate, (see paragraph [0051]).

As to claim 27, the modified Kare et al disclose the optical sensor (10) having (see figure 3) a linear arrangement of the optical fibers that is functionally equivalent to a matrix in that the optical fibers are aligned vertically and horizontal to each other. The modified Kare et al fail to explicitly disclose a matrix sensor. It would have been obvious for one ordinary skill in the art to further modify Kare et al to include a linear arrangement of the optical fibers to improve and enhance the congruence of the optical fibers and to form a matrix sensor.

As to claim 28, the modified Kare et al disclose the optical sensor (10) having discreet filters (46) or colored dyes that are functionally equivalent to a plurality of color filters in that the discreet colored filters (46) or colored dyes can be located proximate the detector or at either end of the optical fiber wherein the discreet filters or colored

dyes filter out the undesired spectral bands prior to the spectral energy reaching the appropriate detector, (see figure 8a, paragraph [0066], paragraph [0067]).

As to claim 29, the modified Kare et al disclose an optical sensor (see paragraph 0040, lines 15) or a remote sensing apparatus (10) that is functionally equivalent to an optical sensor in that it effectively reduces a non-active gap comprising a first optical fiber and a second optical fiber mounted to each other such that the first ends of the first and the second optical fibers are oriented toward a field of view. The modified Kare et al fail to explicitly disclose that the first spacer is mounted between second ends of the first and second optical fibers to locate the ends of the first and second optical fibers further apart than the first ends of the first and second optical fibers. Kerr et al teach (see figure 6d) that the output edge spacers (42, 44) are fixed in between the optical fibers segments corresponding to the input fiber to fiber distance (I) and the output edge fiber to fiber spacing (O). It would have been obvious for one ordinary skill in the art to further modify Kare et al to include the output edge spacers (42, 44) that are fixed in between the optical fibers segments corresponding to the input fiber to fiber distance (I) and the output edge fiber to fiber spacing (O) as disclosed by Kerr et al to effectively improve the optical congruence of the alignment configuration relative to the first and second fiber optic faceplates.

As to claim 30, the modified Kare et al disclose the optical sensor (10) functionally equivalent to a tri-linear sensor in that it comprise of three array of detector elements that correspond to a first, a second, and a third optical fiber having spacers between each array of the detector elements, a third optical fiber (see figure 1A) having

a first end oriented toward a field of view and a second end of the third and second optical fibers are further apart than the first ends of the third and second optical fibers wherein the first distance is less than the non active gap of the second ends of the third and second optical fibers, (see paragraph [0044]).

As to claim 31, the modified Kare et al disclose optical sensor (10) having (see figure 3) an arrangement that is functionally equivalent to a column in that each, the first and second optical fibers are arranged in a single column.

As to claims 32, 37, the modified Kare et al disclose the optical sensor (10) having discreet filters (46) or colored dyes that are functionally equivalent to a plurality of color filters in that the discreet colored filters (46) or colored dyes can be located proximate the detector or at either end of the optical fiber wherein the discreet filters or colored dyes filter out the undesired spectral bands prior to the spectral energy reaching the appropriate detector, (see figure 8a, paragraph [0066], paragraph [0067]).

As to claims 33, 38, the modified Kare et al disclose the optical sensor (10) having various type detectors that are functionally equivalent to a tri-linear CCD image sensor in that the sensors have the capability to capture a portion of the light information of an object or a scene of interest wherein the optical fibers are oriented to obtain visual images from a field of view at one location and distribute components of the optical images to more widely spaced sensor elements of one or more optical sensors. Examples of sensors that are compatible to a tri-linear sensor as taught by the modified Kare et al are Charge Couple Device (CCD) sensors or photodiode array detectors such as linear CCD arrays or hybrid silicon photodiode arrays. The modified

Kare also teach that other detectors may be utilized as known to those skilled in the art to be capable of detecting spectral energy, (see paragraph [0053]).

As to claims 34, 40, the modified Kare et al is silent as to disclosing that the optical sensor is one matrix sensor. However, the modified Kare et al disclose an arrangement (see figure 3) similar to a matrix sensor in that the optical fibers are arranged in a single column. It would have been obvious for one ordinary skill in the art to arrange the optical fibers in one matrix or any desired manner in order to maintain a precise and accurate alignment of the optical fibers on the fiber optic plate, (see paragraph [0051]).

As to claim 35, the modified Kare et al disclose the optical sensor (10) having (see figure 3) a linear arrangement of the optical fibers that is functionally equivalent to a matrix in that the optical fibers are aligned vertically and horizontal to each other. The modified Kare et al fail to explicitly disclose a matrix sensor. It would have been obvious for one ordinary skill in the art to further modify Kare et al to include a linear arrangement of the optical fibers to improve and enhànce the congruence of the optical fibers and to form a matrix sensor.

Response to Arguments

Applicant's arguments filed January 23, 2006 have been fully considered but they are not persuasive. The rejection of claims 1-43 has been modified to address the amendment to the claims.

With respect to claim 1, (see figure 2) of the Richardson et al reference, the applicant explicitly acknowledge that Richardson teaches optical fibers that are farther apart at an input end and closer together at an output end. According to the applicant, Richardson does not show optical fibers that are farther apart at an end that distribute image components to an optical sensor (output) and closer together at an image-obtaining (input) end. However, Kare et al (see figure 1A) explicitly disclose that the optical fibers (16) are farther apart at the output end and connected to an array of detectors (18) that are also located at the output end of the optical sensor. Kare et al also disclose that the input ends of the optical fibers (16) are closer together facing a field of view. Therefore, because of the reasoning set forth above, the rejection is proper.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Don Williams whose telephone number is 571-272-8538. The examiner can normally be reached on 8:30a.m. to 5:30a.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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